Weighing CO_2 in Balloons

Calculation Steps:

One mole of Carbon Dioxide weighs 44 g.

That means that 1000 g (1 kg) is 23 moles of CO_2.

Under standard conditions (room temperature and atmospheric pressure) 1 mole of gas occupies 22.4 L. Therefore 23 moles of CO_2 gas is equivalent to 510 L (0.510 m^3)

Assuming 1 balloon has a volume of half a cubic foot (0.015 m^3), which we can calculate to be 0.6 moles of CO_2, which is 30 g of CO_2!

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